

FIG. 1

16a

# Quadrature Mach-Zehnder Modulation Device

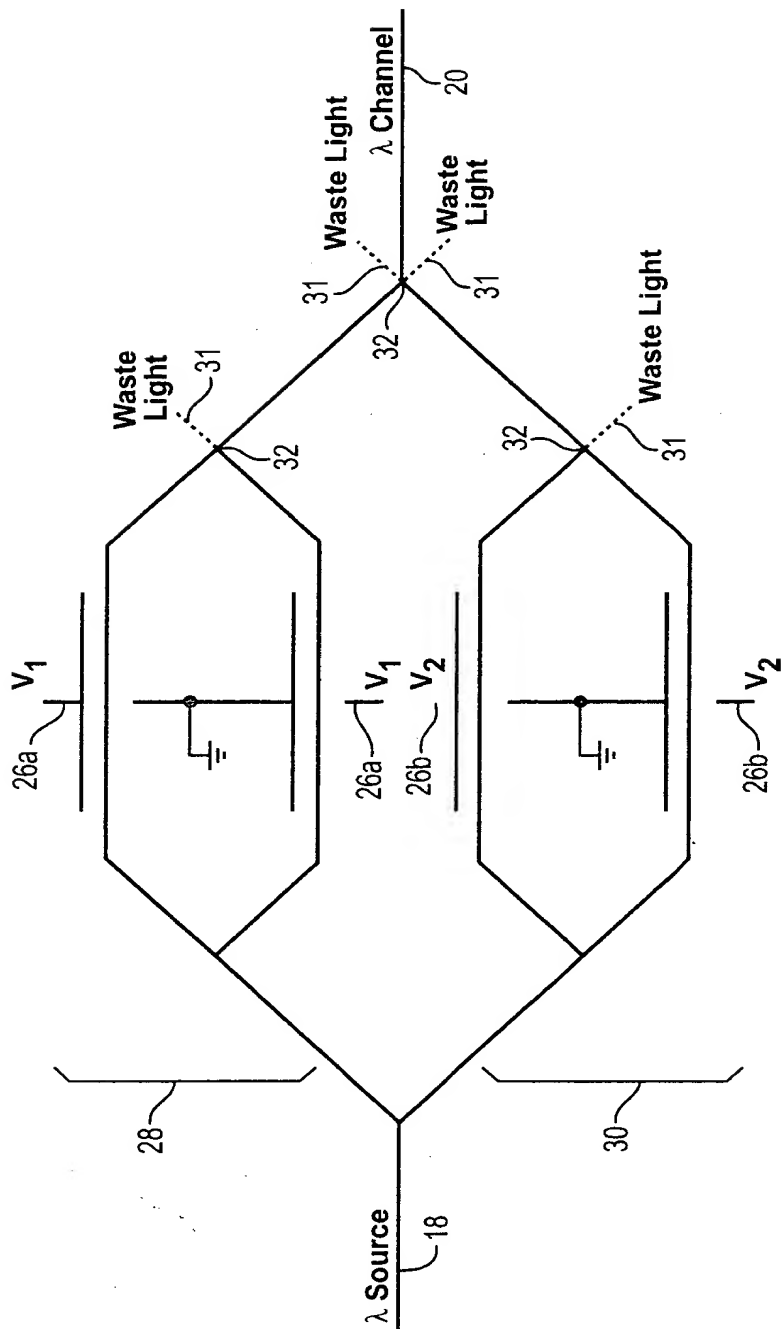


FIG. 2

# Mach-Zehnder Device Transfer Function

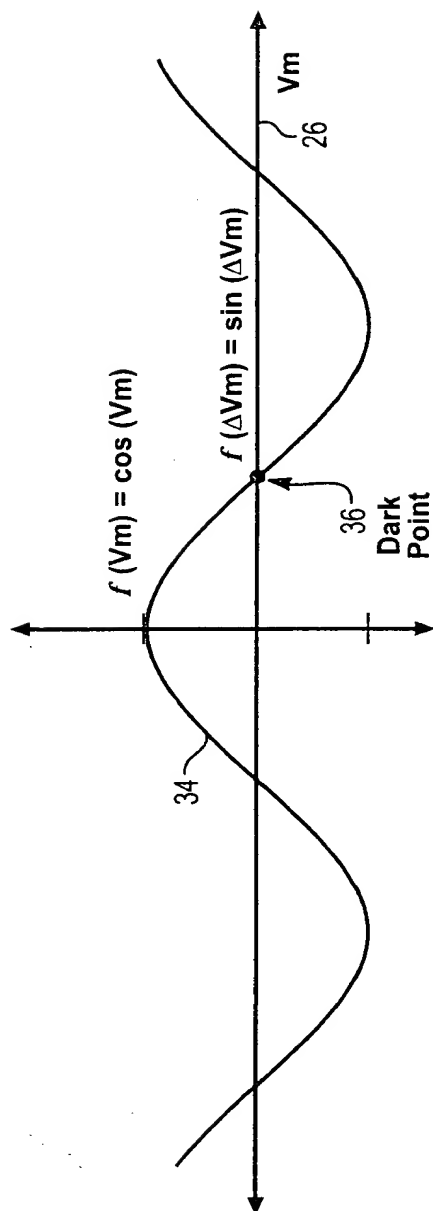


FIG. 3

Modulation Synthesizer

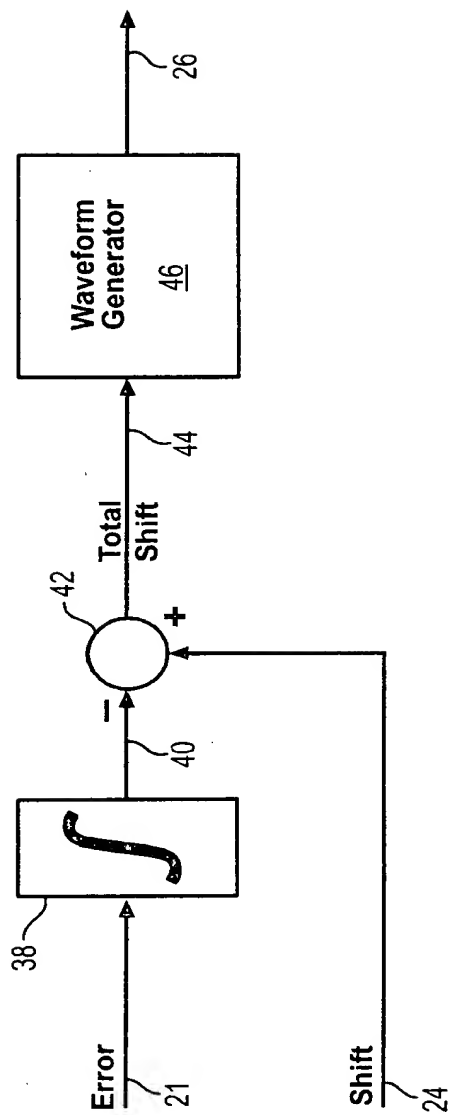


FIG. 4

12

# Quadrature Modulation Synthesizer (With On/Off Data Keying)

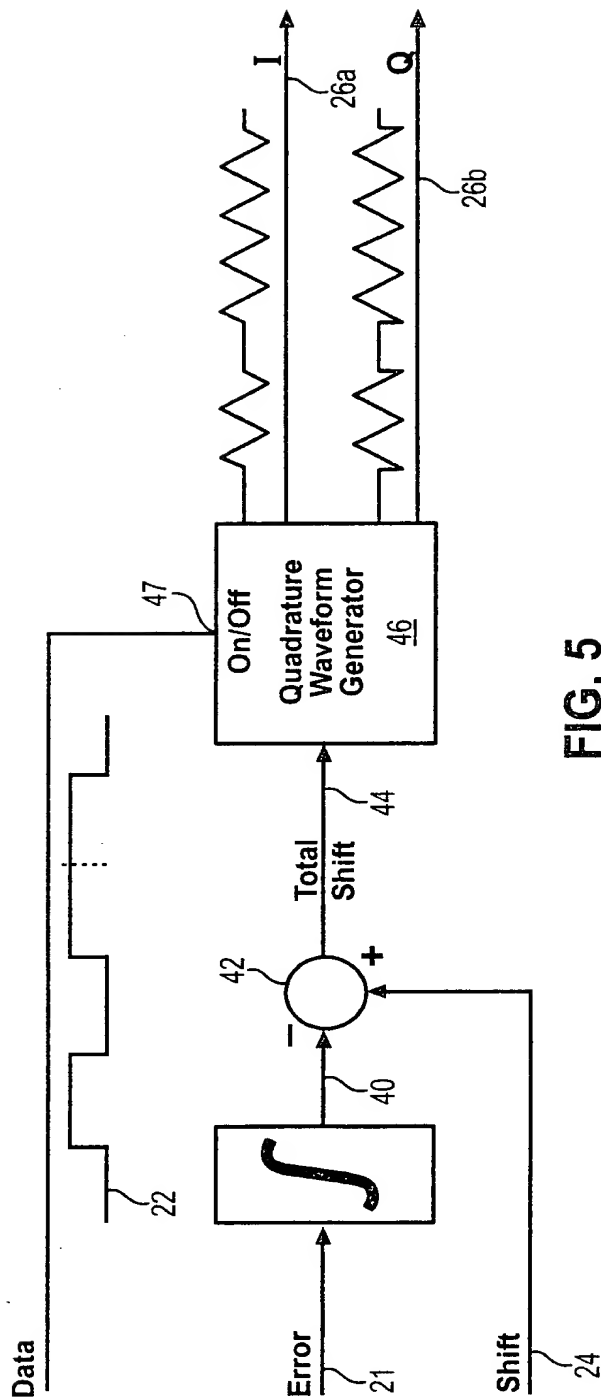


FIG. 5

Phase Modulation Device

Phase Modulation Device

16b

26  $V_1$

$\lambda$  Source

$\lambda$  Channel

FIG. 6

# Modulation Synthesizer (With Frequency Shift Keying)

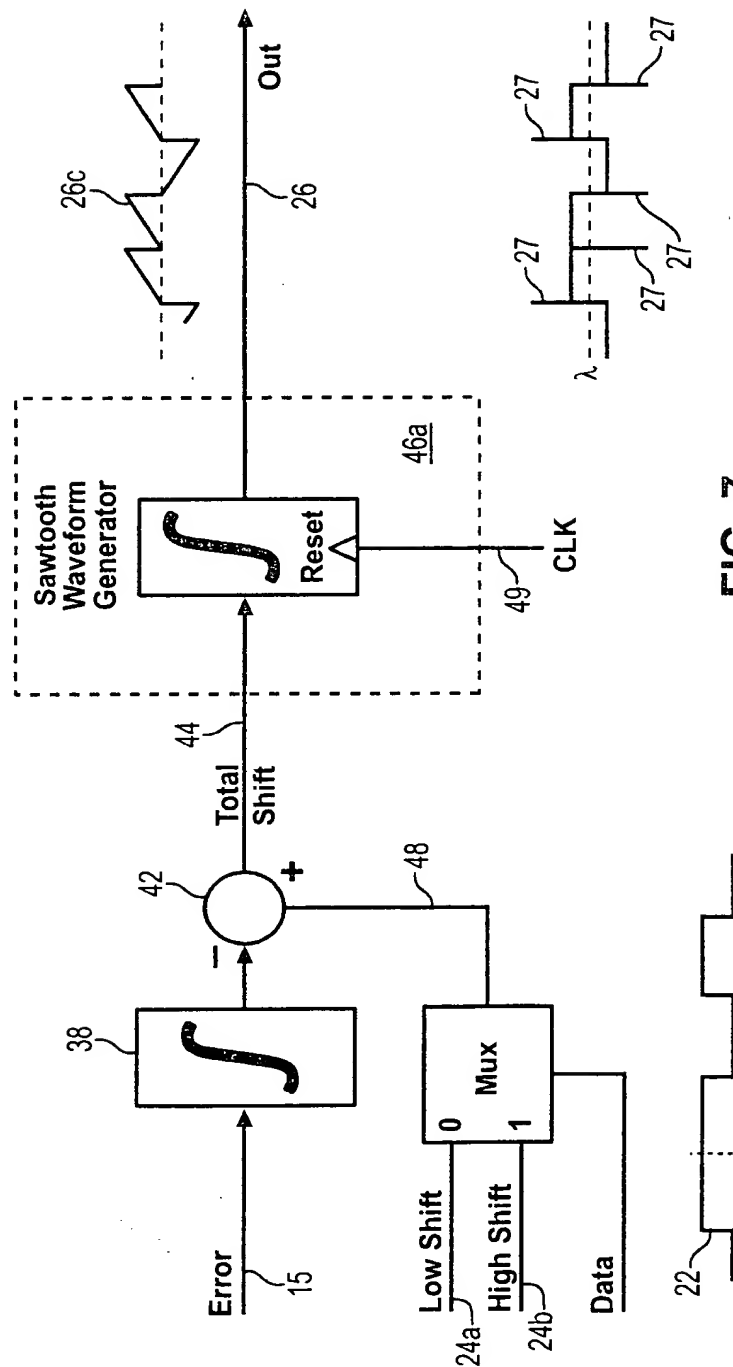


FIG. 7

# Wavelength Error Detector (Fixed Wavelength)

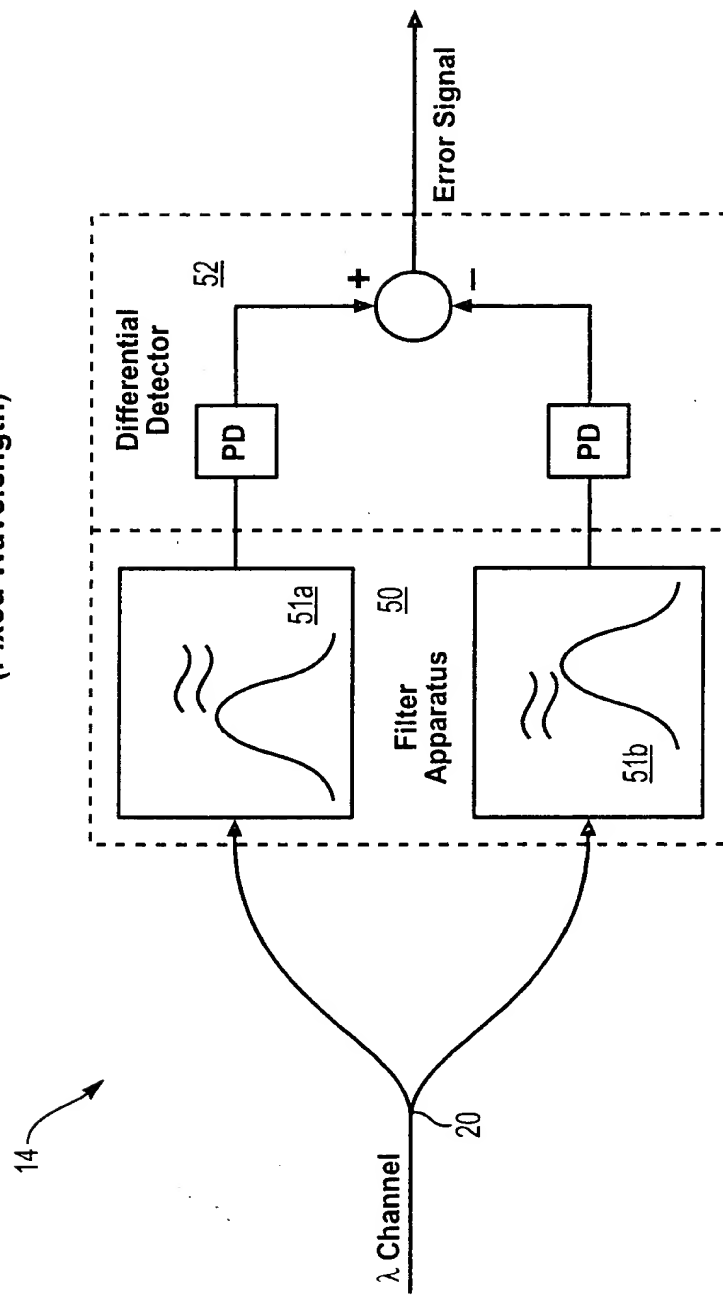
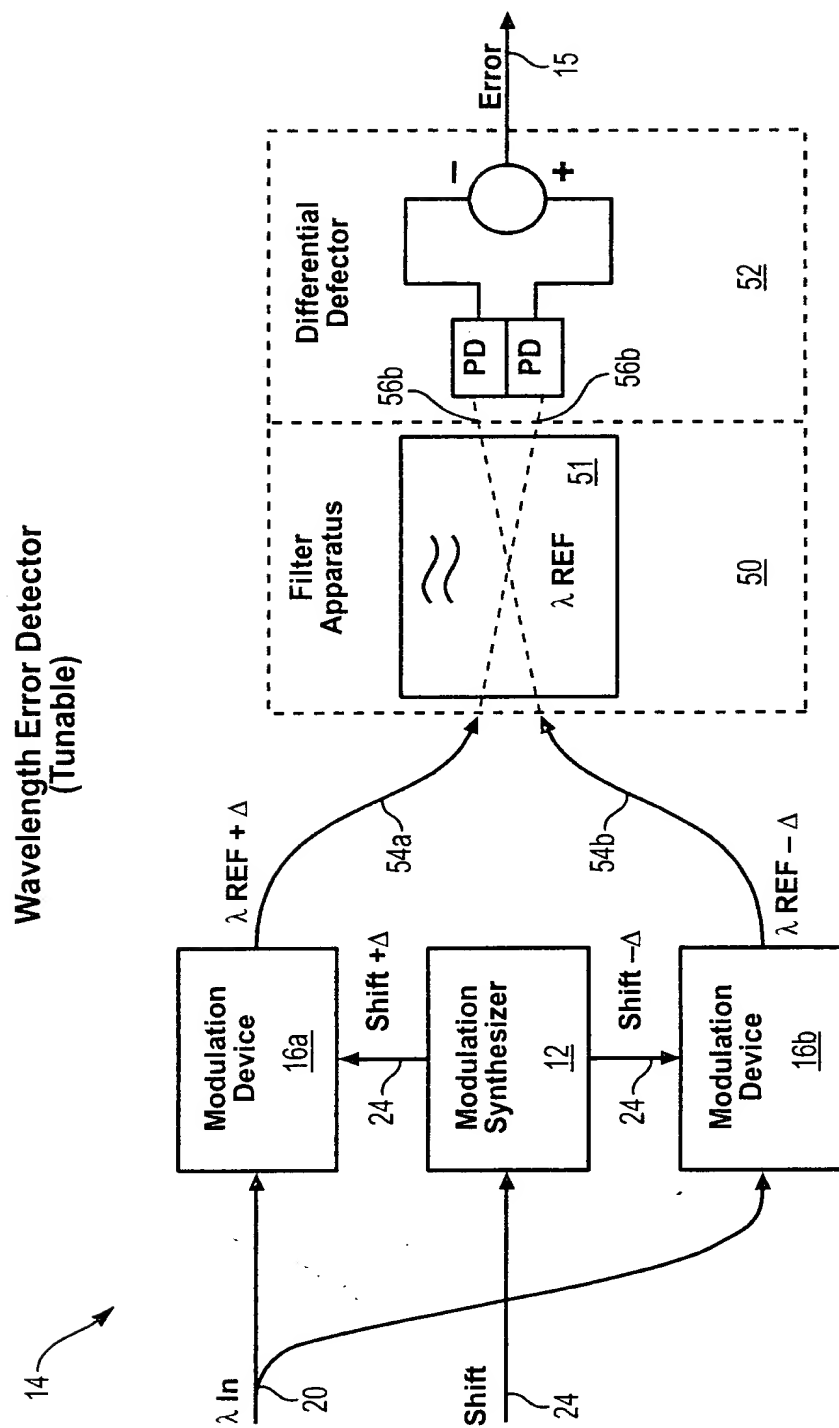


FIG. 8





**FIG. 9**

14

# Wavelength Error Detector (Tunable)

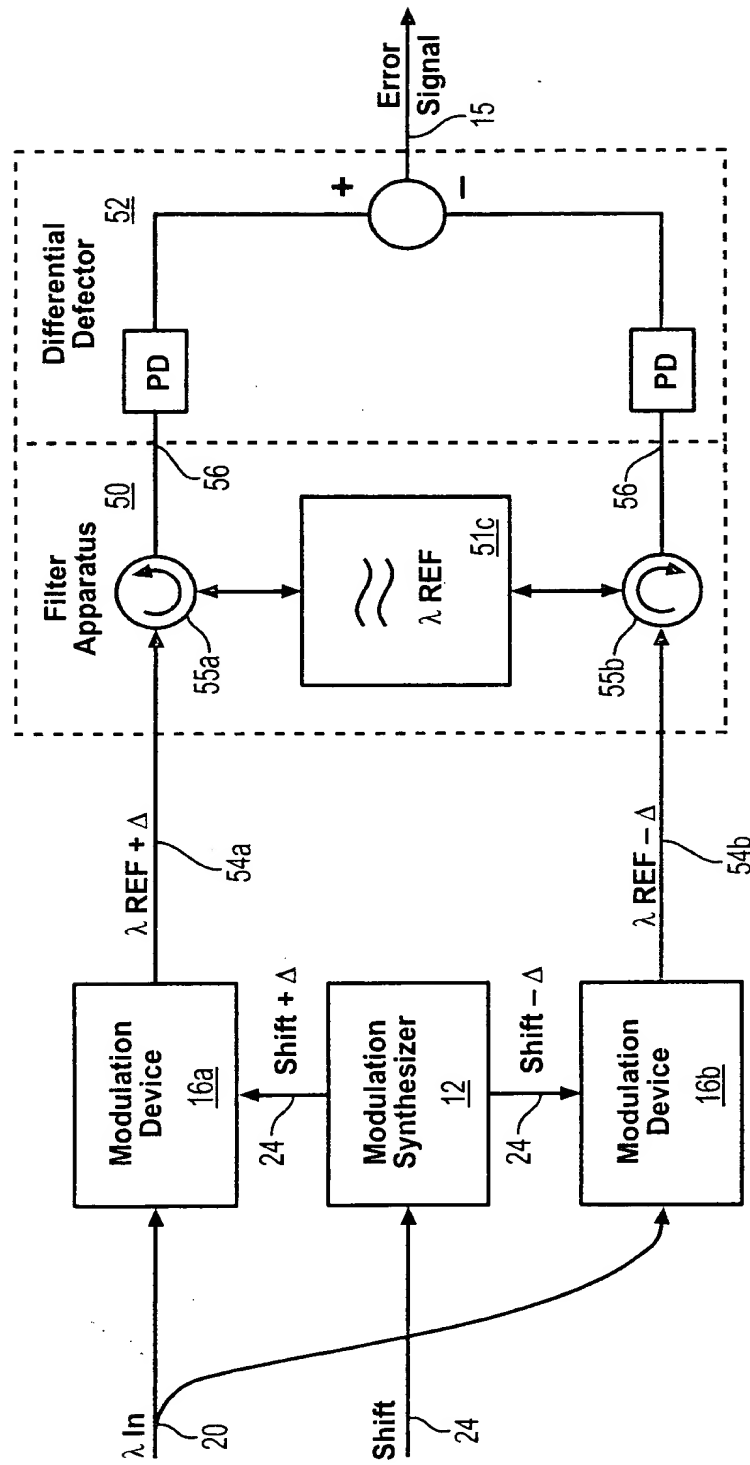


FIG. 10

# Channel Allocation Mechanism

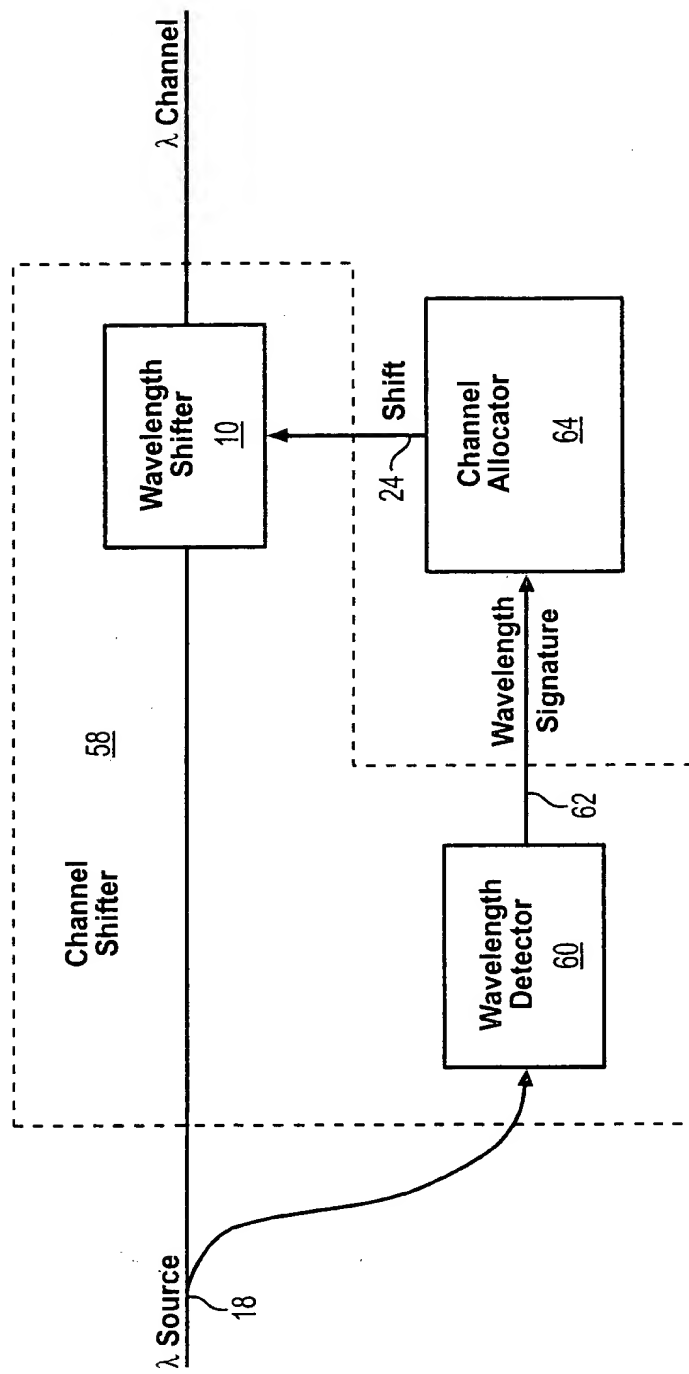


FIG. 11

70 → Tunable Wavelength Stabilized Transmitter

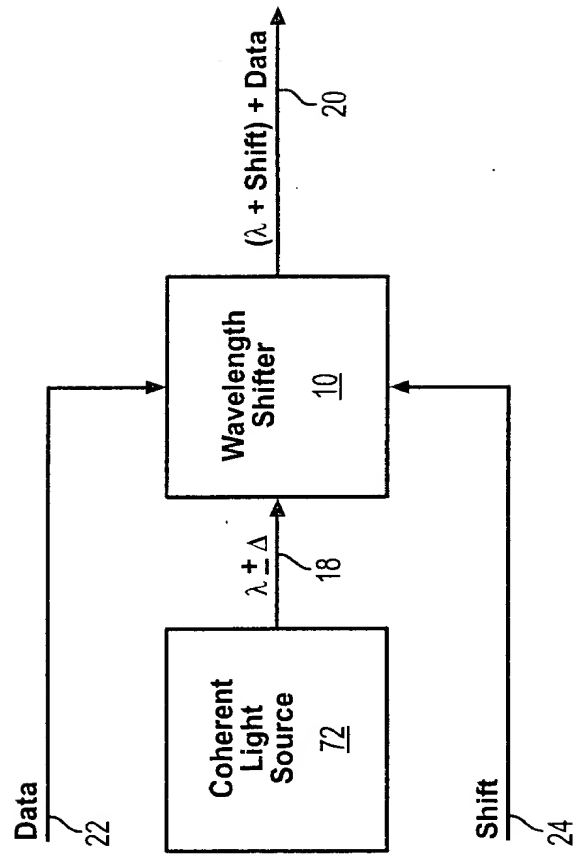


FIG. 12

74

# Recursive Wavelength Shifter

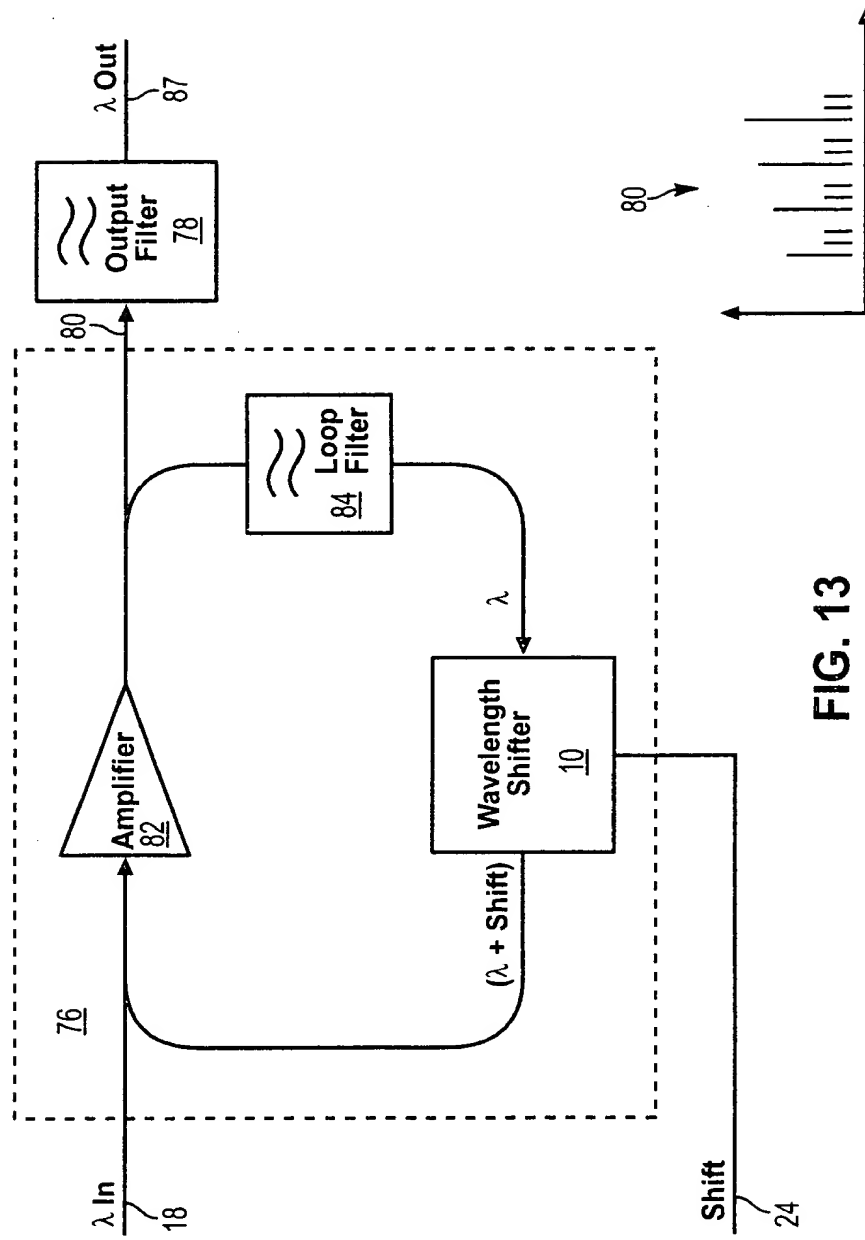


FIG. 13

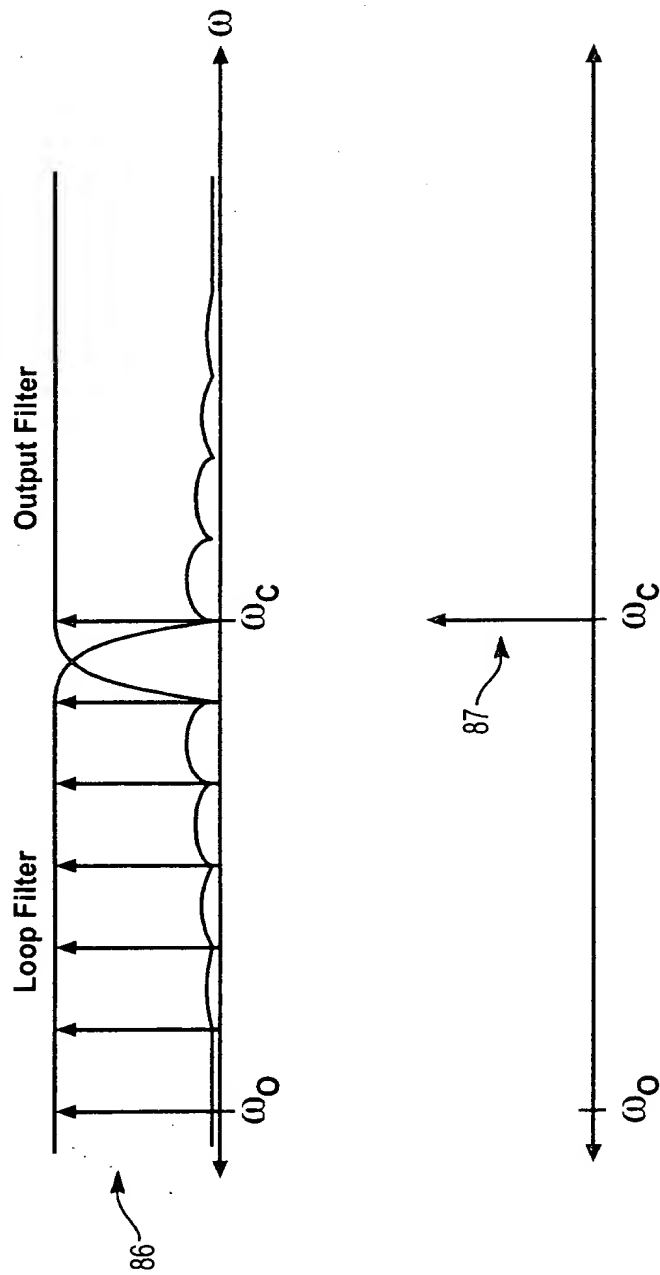


FIG. 14